

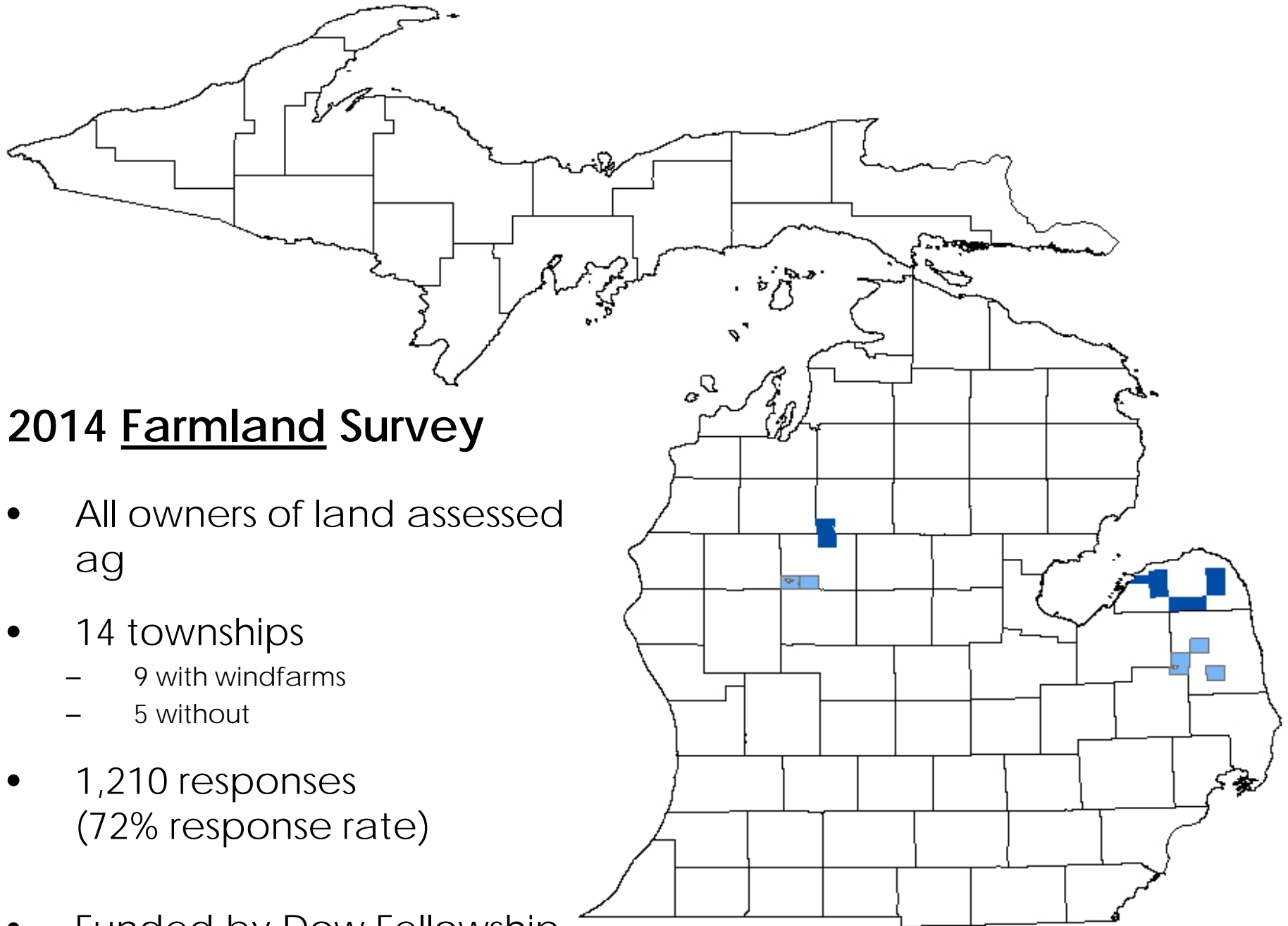
Lessons Learned from MI's Windfarms

November 30, 2017

Sarah Mills, PhD

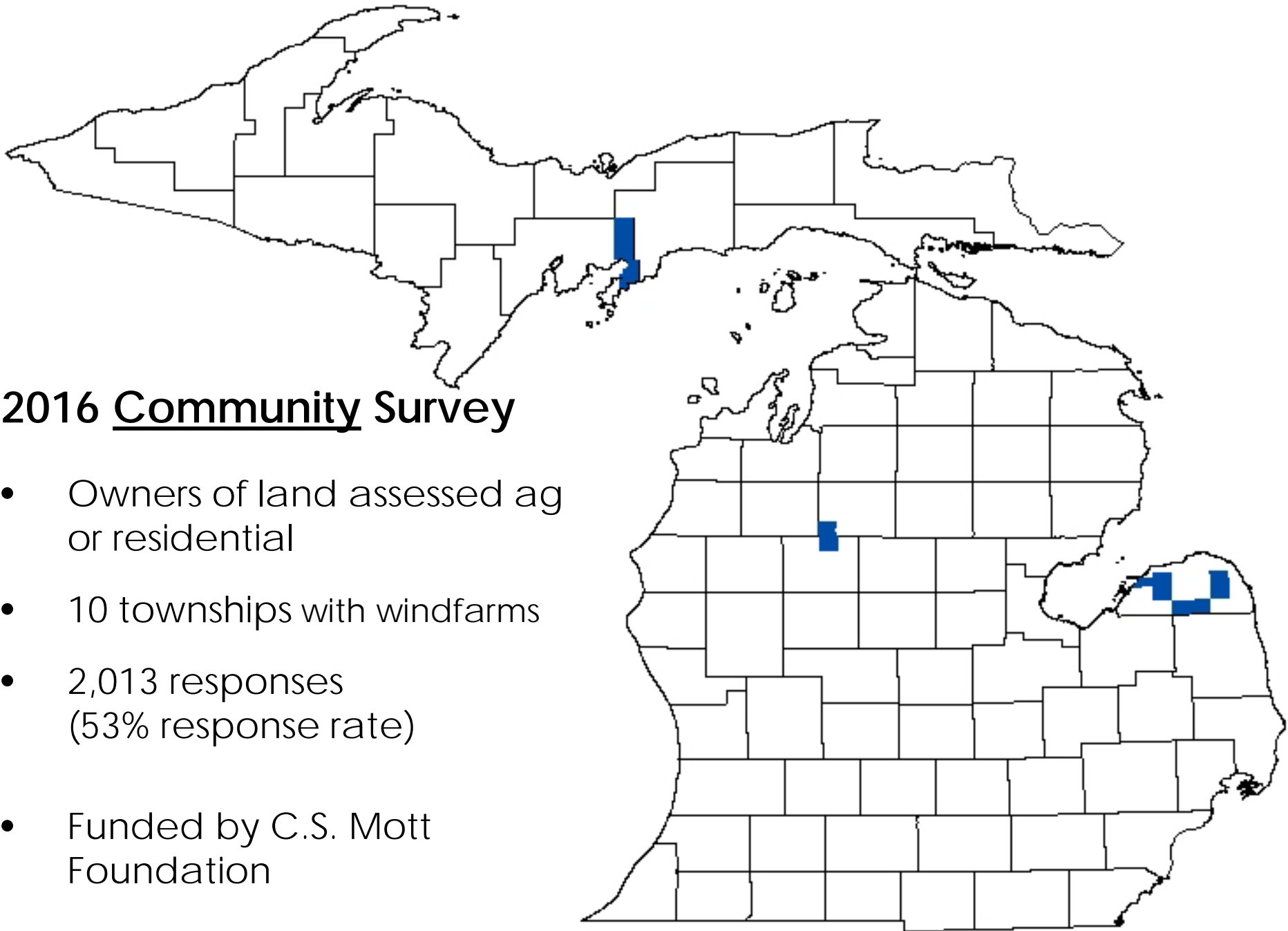
Why this research?

- Investigate Gratiot & Huron County claims of farmland preservation
- Understand why such different experiences
- Grant from C.S. Mott Foundation lets me share lessons (though end of year)



2014 Farmland Survey

- All owners of land assessed ag
- 14 townships
 - 9 with windfarms
 - 5 without
- 1,210 responses
(72% response rate)
- Funded by Dow Fellowship



2016 Community Survey

- Owners of land assessed ag or residential
- 10 townships with windfarms
- 2,013 responses (53% response rate)
- Funded by C.S. Mott Foundation

Data about the negative impacts

- Views on noise, visual impact, property values roughly 50/50

Financial stake = rosier view

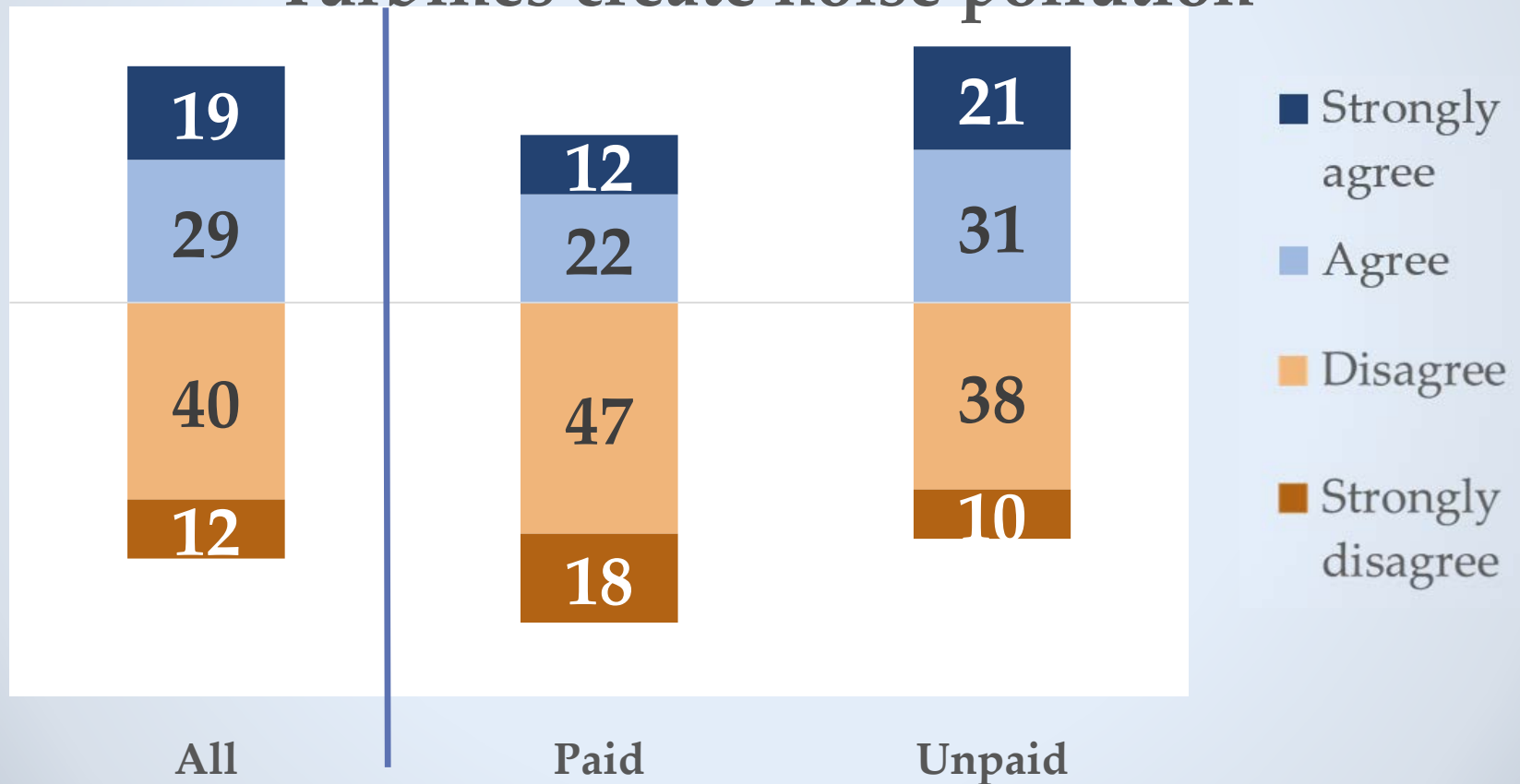
OR

no financial stake = more soured view

BUT STILL SPLIT OPINIONS

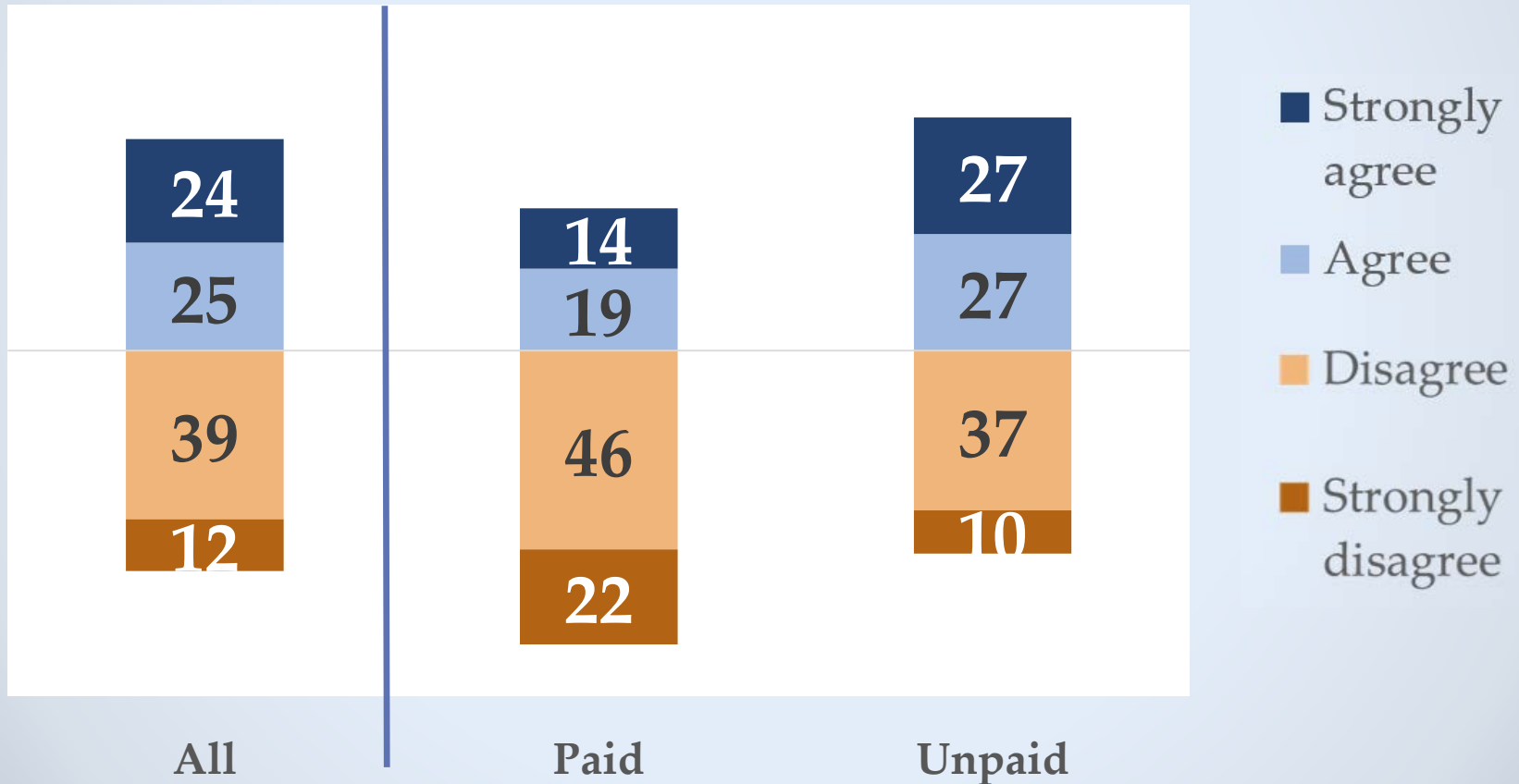
Noise

Turbines create noise pollution



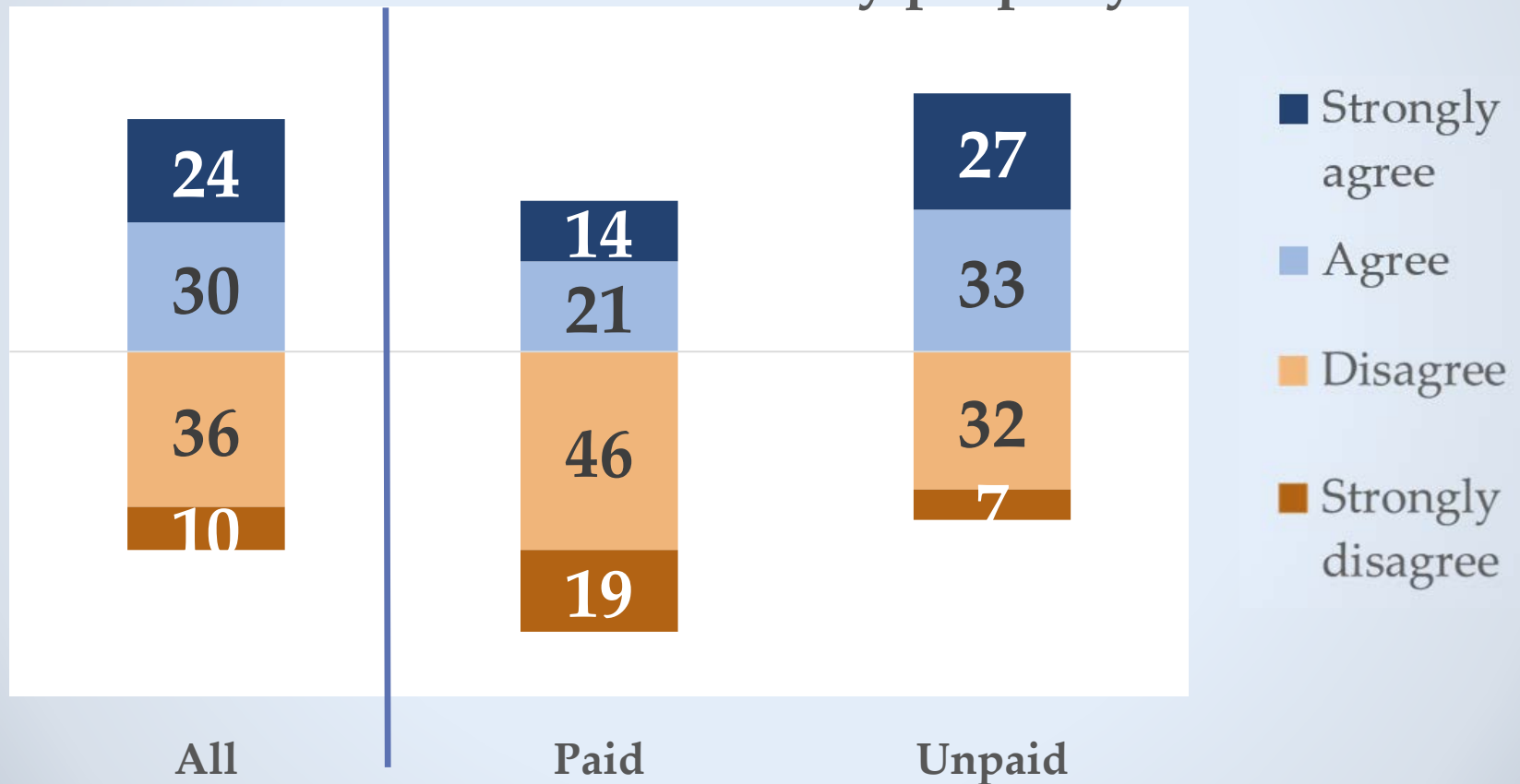
Visual/Aesthetic

Turbines create visual/aesthetic problems



Property values

Turbines decrease nearby property values



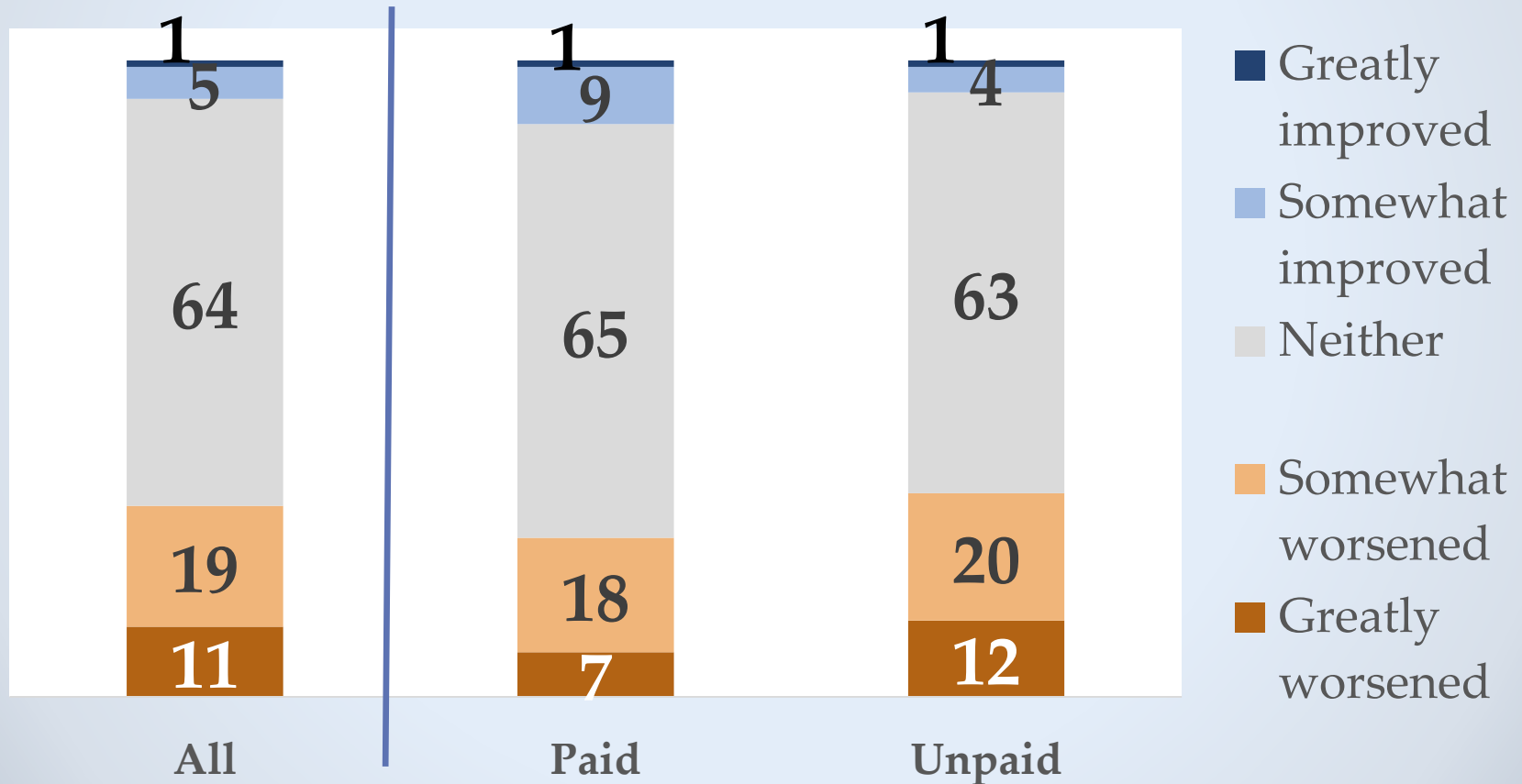
Data about the negative impacts

- Views on noise, visual impact, property values roughly 50/50
 - Financial stake = rosier view
 - OR
 - no financial stake = more soured view

BUT STILL SPLIT OPINIONS
- Most don't (72%) see health impacts, but some do
- Majority (70%) don't think it's divided the community
 - Even in some pretty contentious projects

Relationships with Neighbors

Turbines' effect on relationships with neighbors



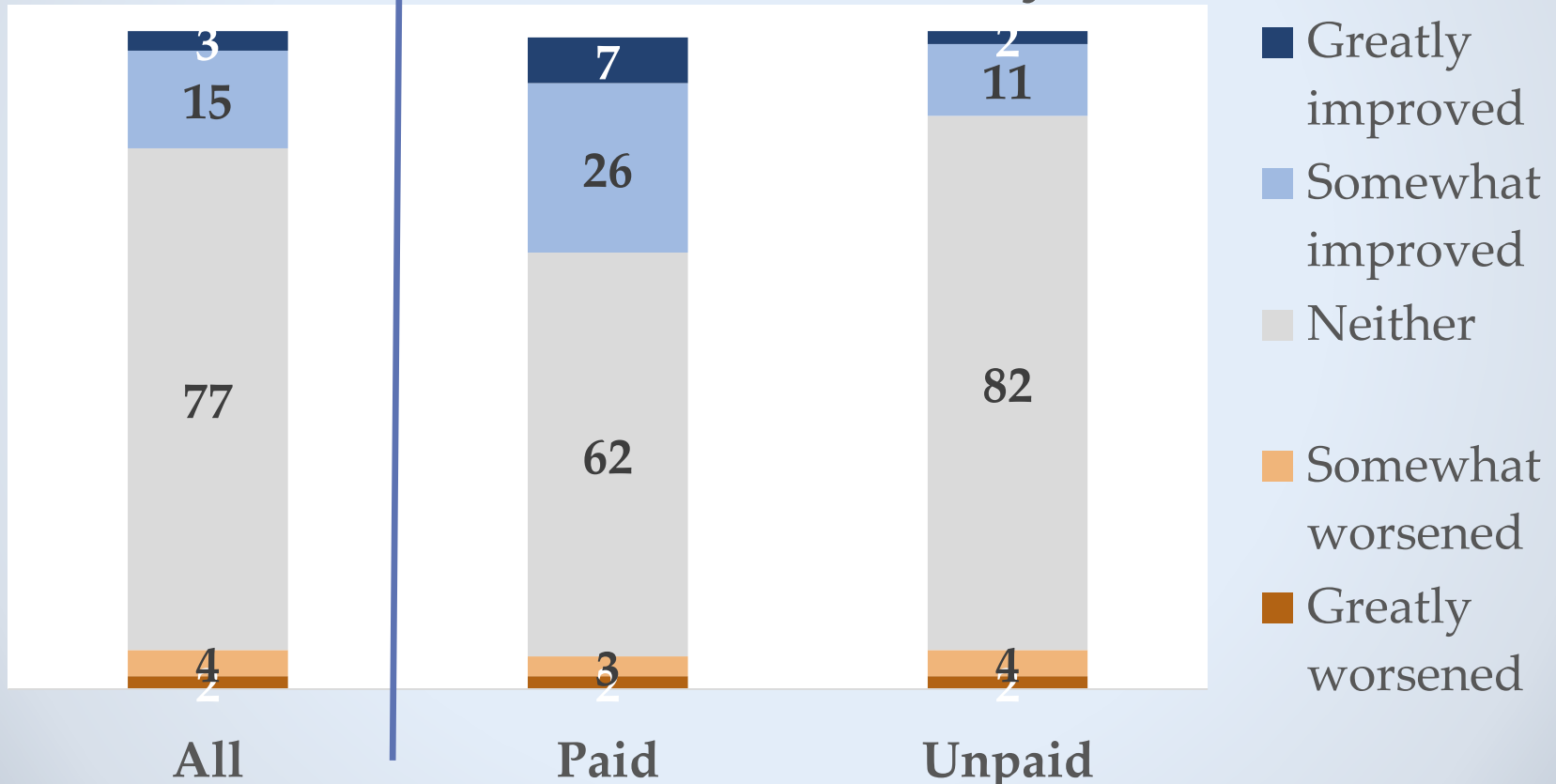
Data about the positive impacts

- Most (78%) see job creation with caveat about types of jobs
- Majority (60%+) haven't seen changes to roads, townships services, county services, or local schools
 - Despite pretty substantial payments
 - Likely because of how money being used: plug holes, do more of same

Tax Benefits

\$2.749 Million to
county gov't in
Huron County in 2015

Turbines' effect on county services

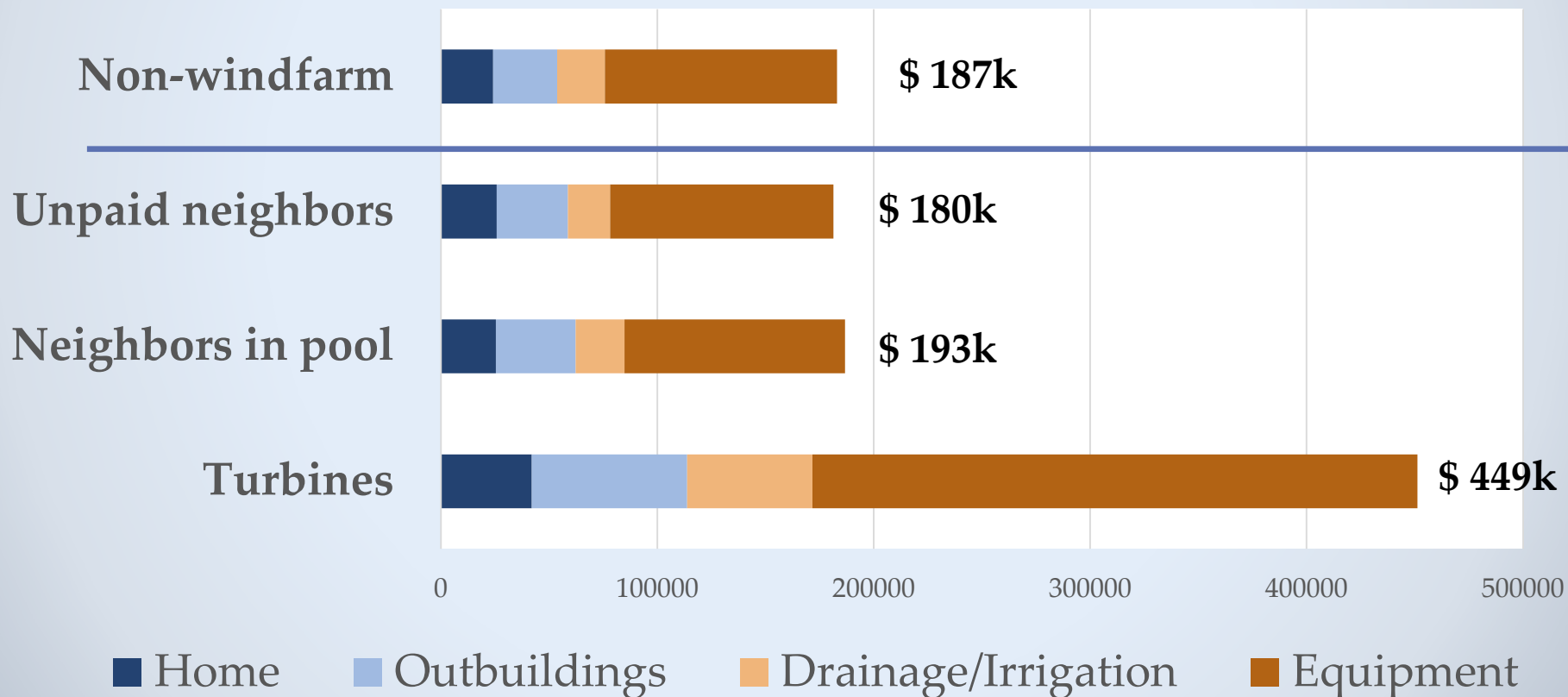


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- Landowner payments linked to increase in on-farm investment and increase in succession planning

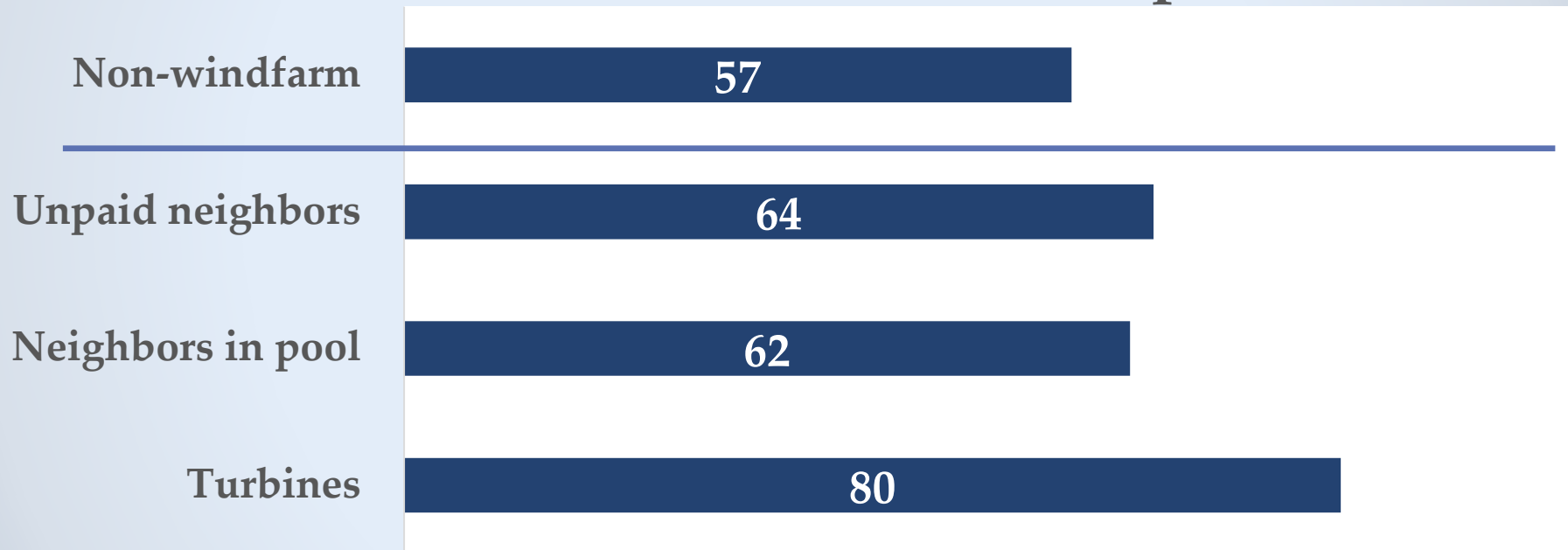
Farm Investment

Investments over 5 years: 2009-2013



Farm Succession

% that have farm succession plan



Overall drivers of attitudes

- Direct compensation
- Type of land owned
 - secondary vs. primary residence
 - farmland / rental property *only*
- Being within earshot of turbines
- Attitudes about process, wind developer

What's the Lesson?

- Windfarms = rural economic development proposition
 - Compatible with ag
 - Less so with residential growth, tourism
- Indirect economic benefits not felt by average landowner
- Business models that directly pay more landowners help keep the peace
- Wind developers, local officials need to act transparently

What Happened in Huron County?

- Previous experiences (some good, some bad)
 - Many different wind developers in Huron County
 - Tax table changes a huge concern
- Turbine fatigue: “we’ve done our part”
 - Particularly related to red lights
 - I’m hearing this, but I think it’s not the root cause
- County voting = lots of heterogeneity
 - Not all farmers/farming families
 - Yeas: 26% - 54%
 - Turnout: 9% - 61%
- Those who cared, voted

Any Policy Lessons?

- Farmer/non-farmer conflict akin to Right to Farm Act
- Need to reconsider tax structure, community benefits
 - Rate-making: Other direct payments – bill surcharge, distributed to everyone in twp?
- Local siting is the way to go
- Figure out proactive communication
 - About economic development potential, pros & cons
 - Locally-issued RFPs?
- Creating a code of conduct
 - Wind Energy Stakeholder Committee

The CLOSUP Wind Project

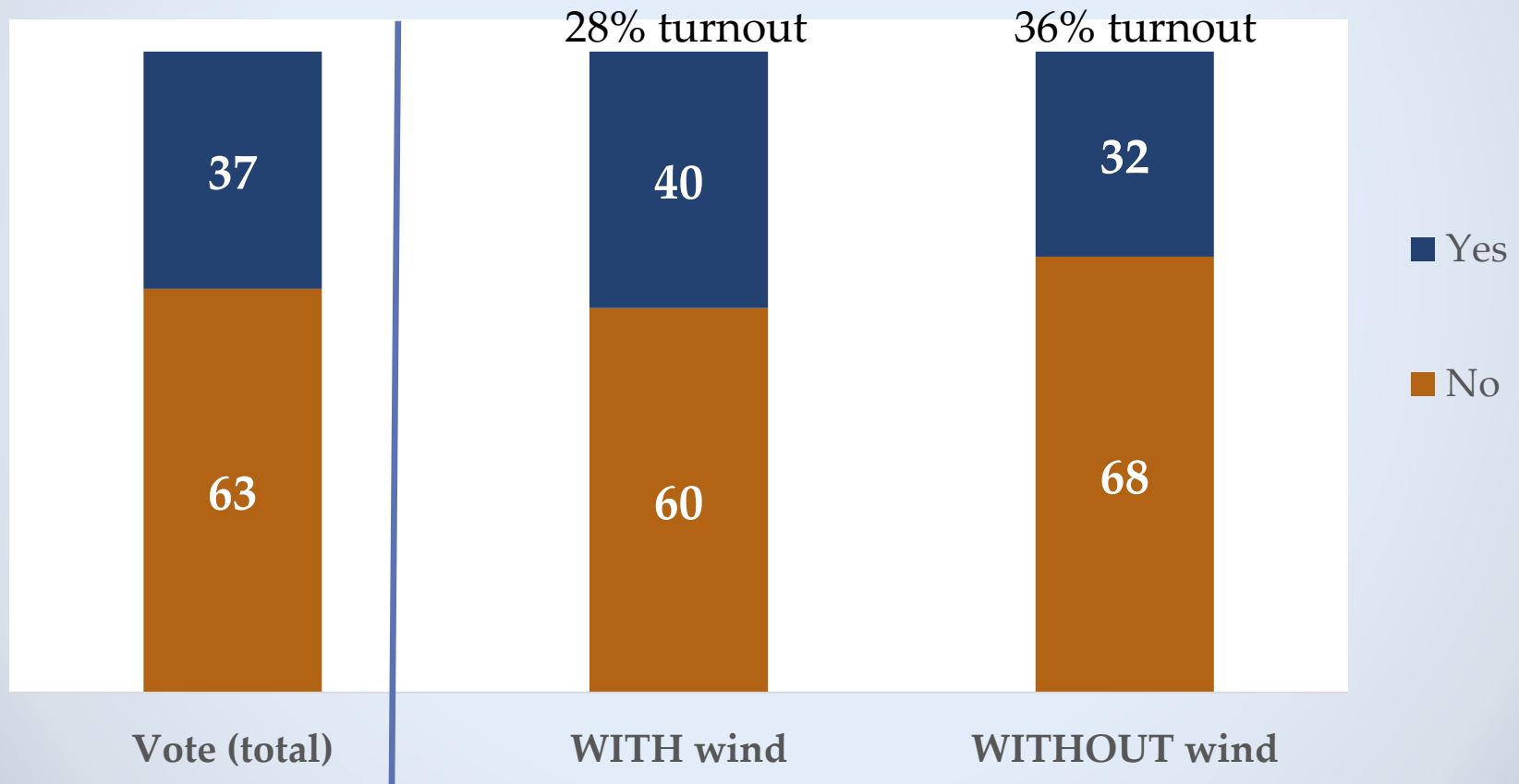
Sarah Mills, Project Manager

Phone: (734) 615-5315

Email: sbmills@umich.edu

Web: www.closup.umich.edu/wind

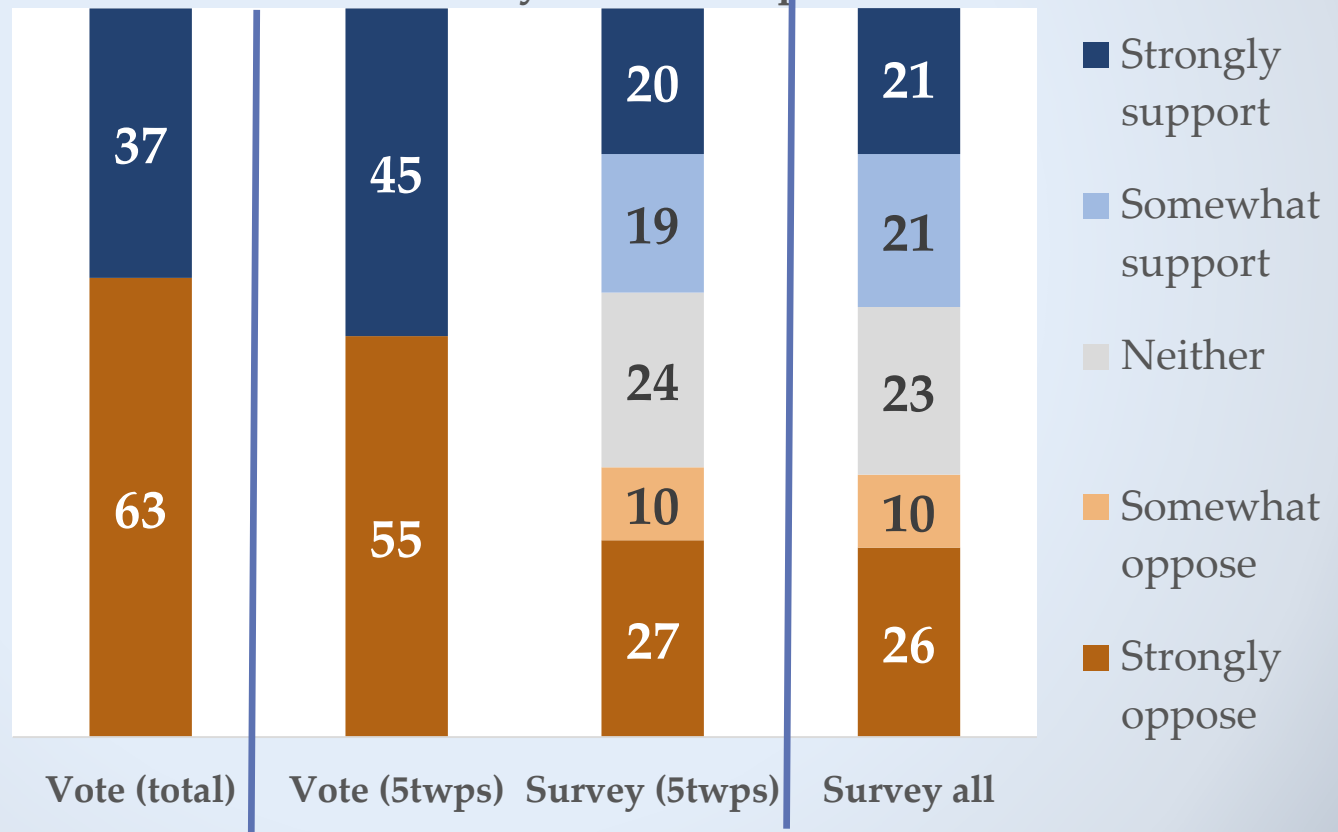
Huron County Vote Break-downs



May 2 Referendum vs. Survey

Willingness to host additional turbines
in your township

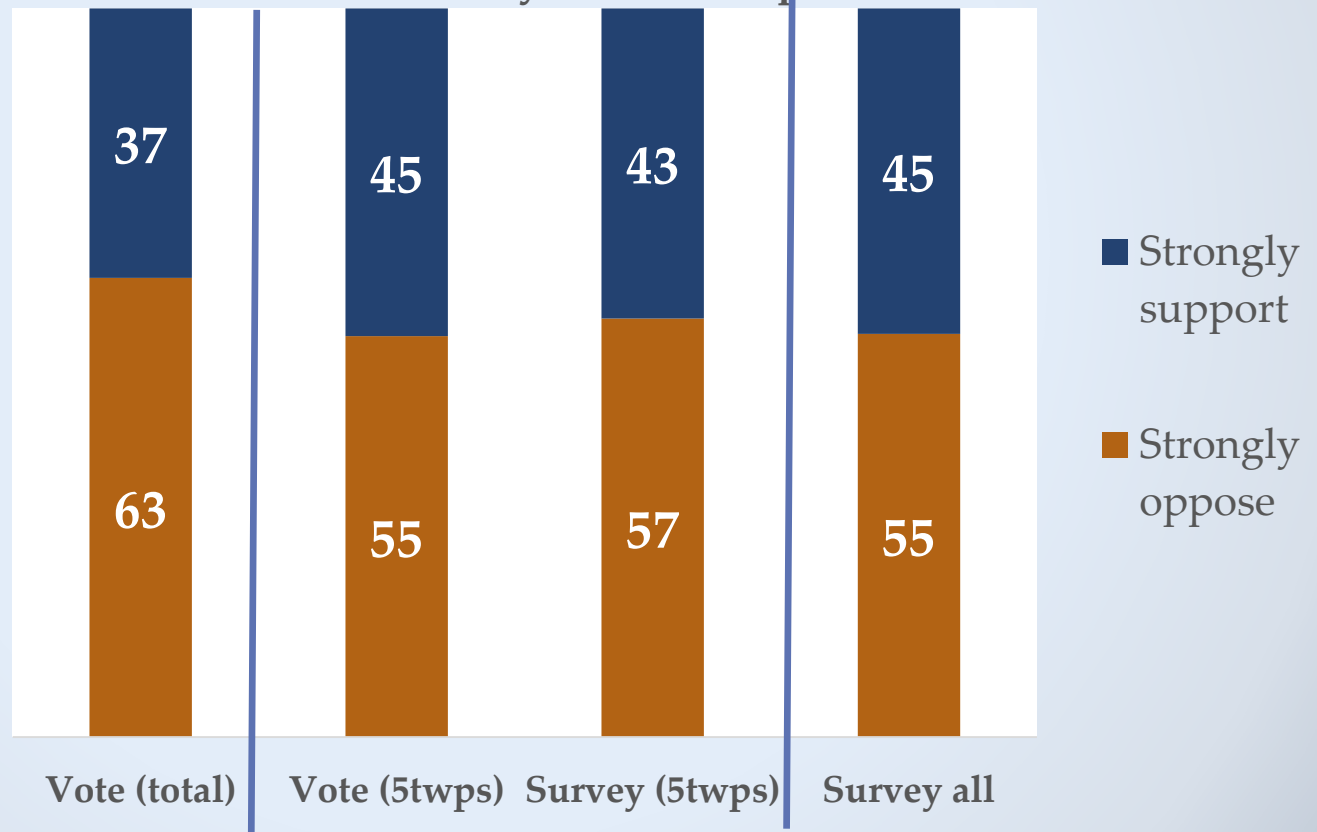
- 5 twps.
 - Bingham
 - Bloomfield
 - McKinley
 - Sheridan
 - Sigel



May 2 Referendum vs. Survey

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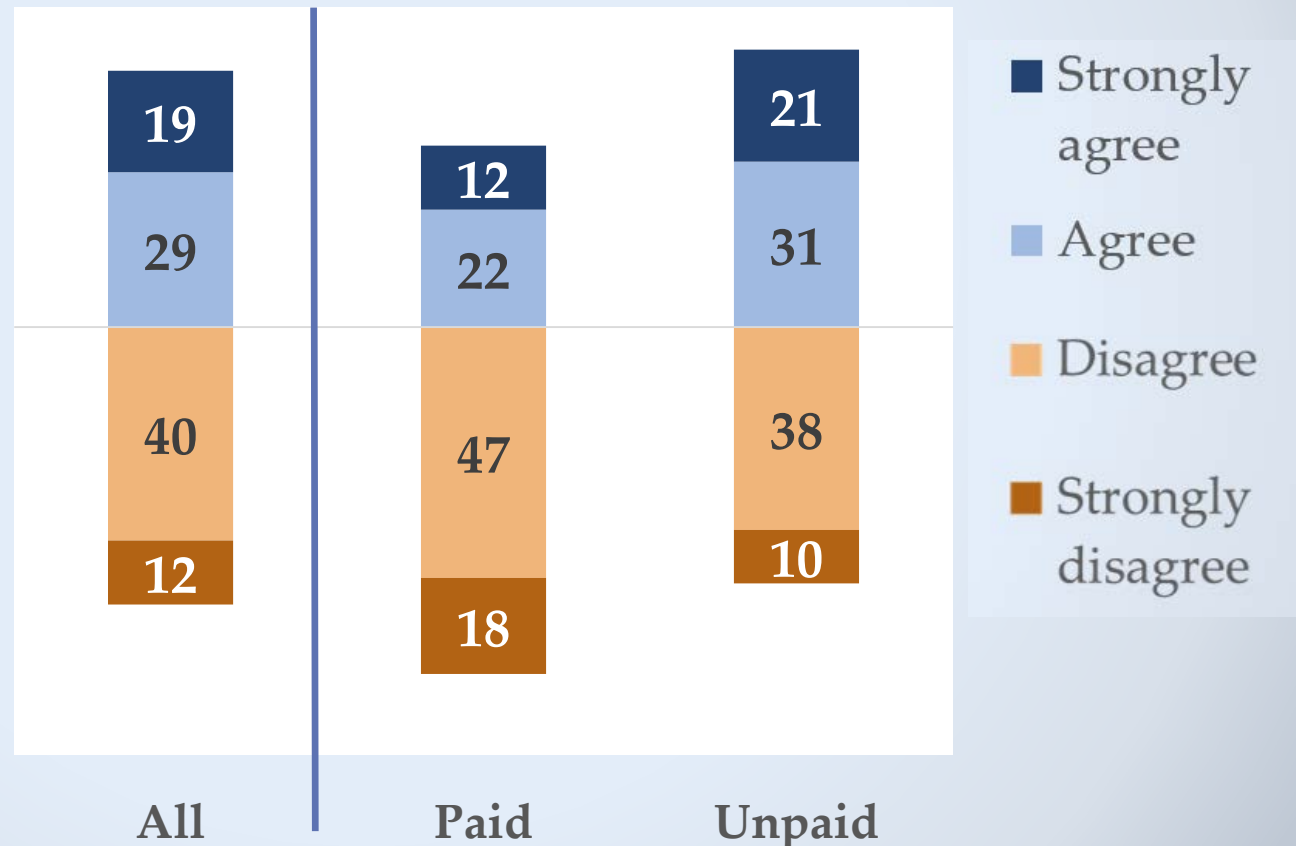
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Individual-level Impacts

- Noise
- Visual
- Health
- Property value
- Farm income
- Farm succession

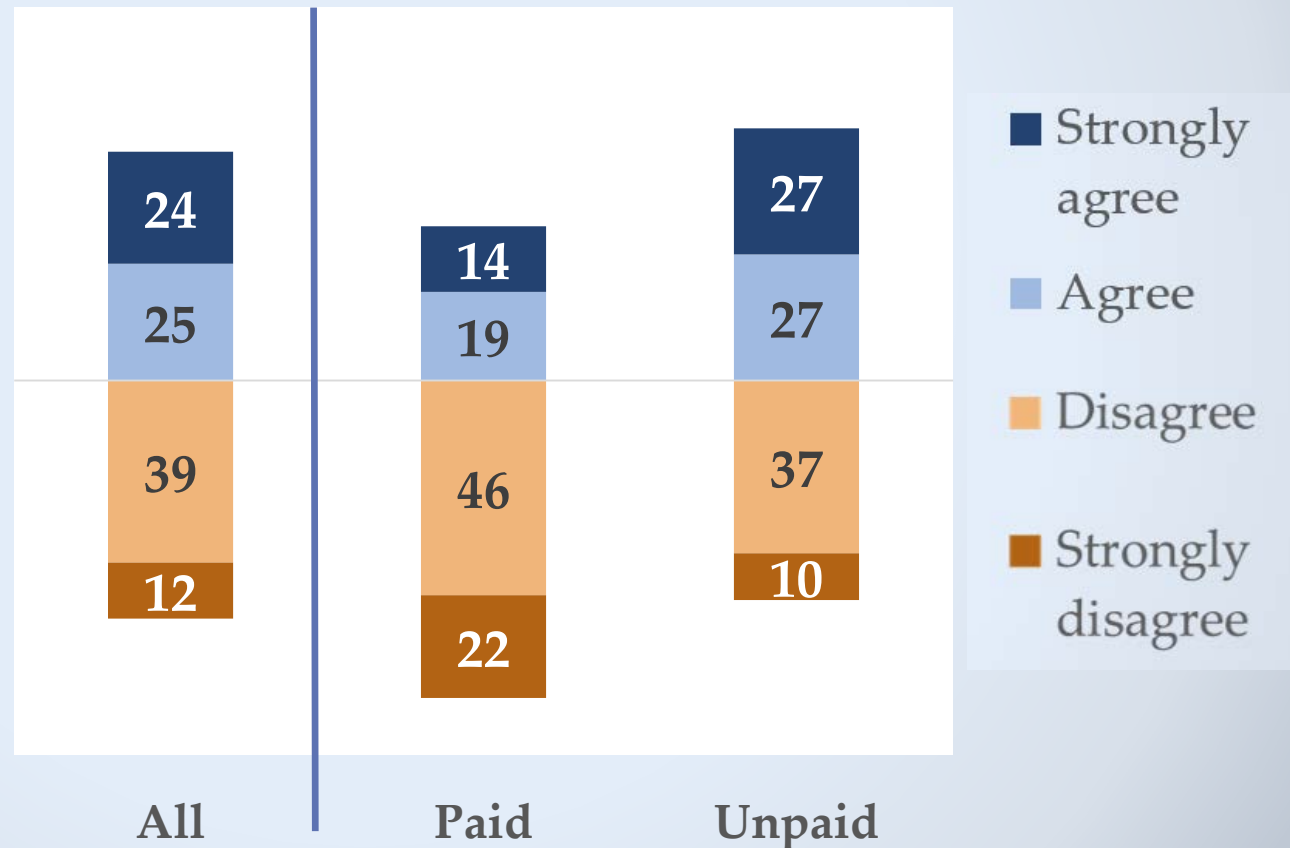
Turbines create noise pollution



Individual-level Impacts

Turbines create visual/aesthetic problems

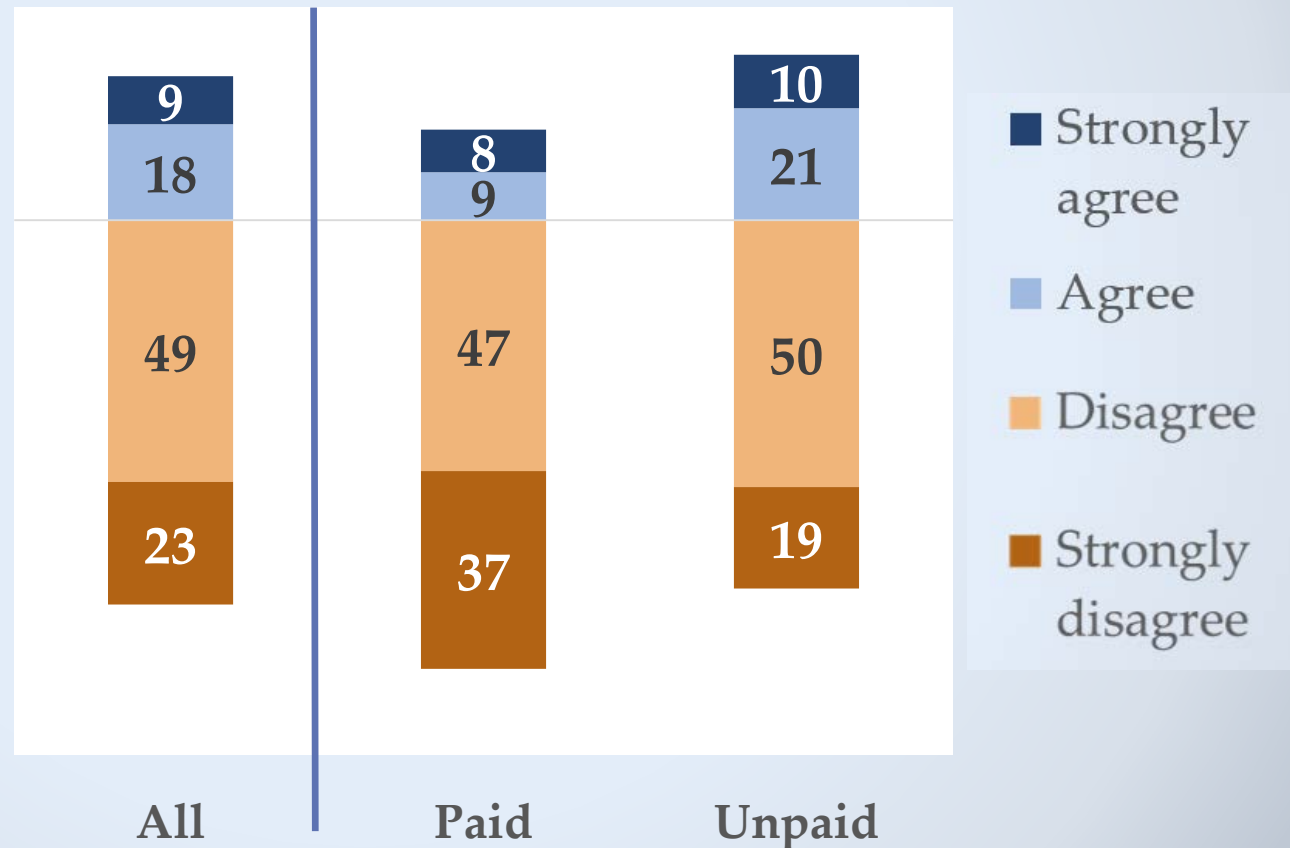
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Individual-level Impacts

Turbines cause human health problems

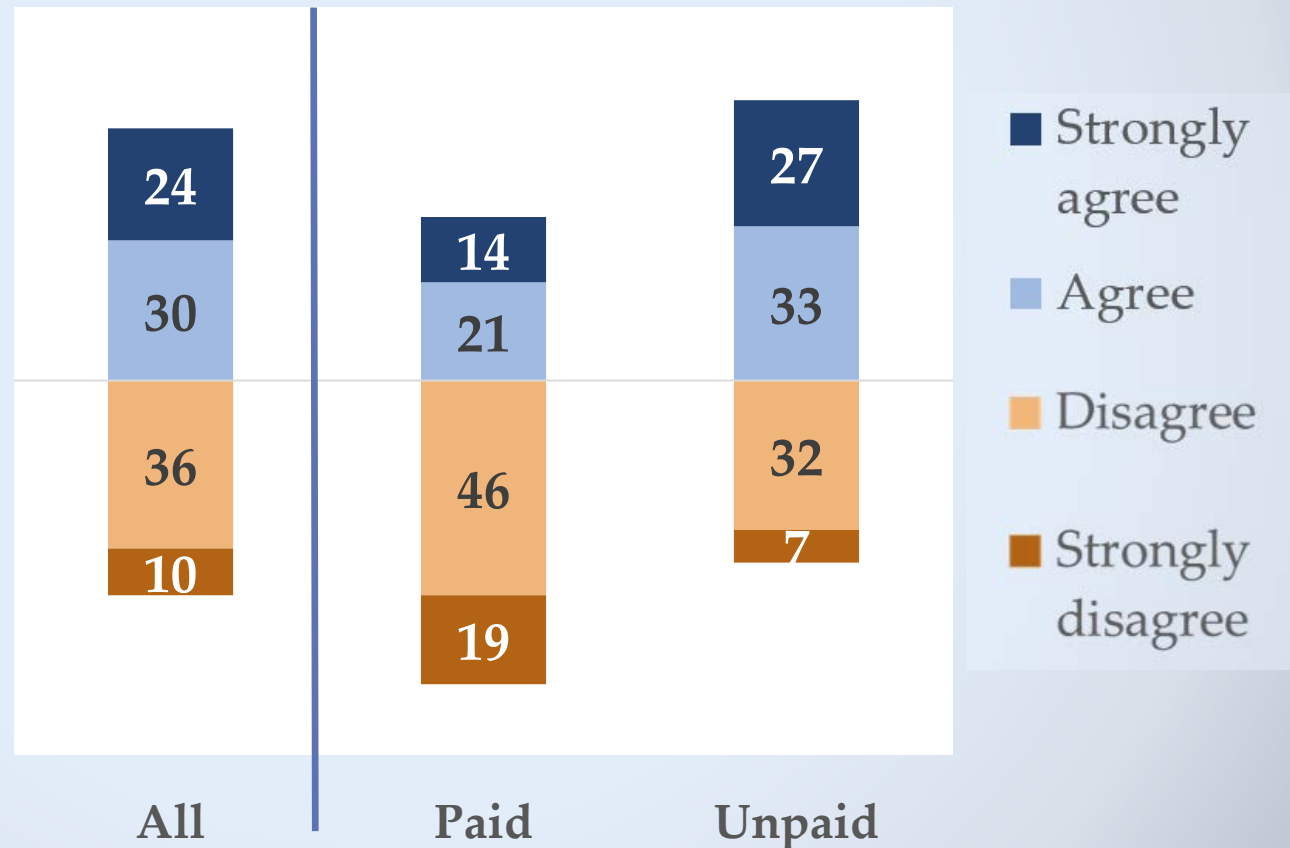
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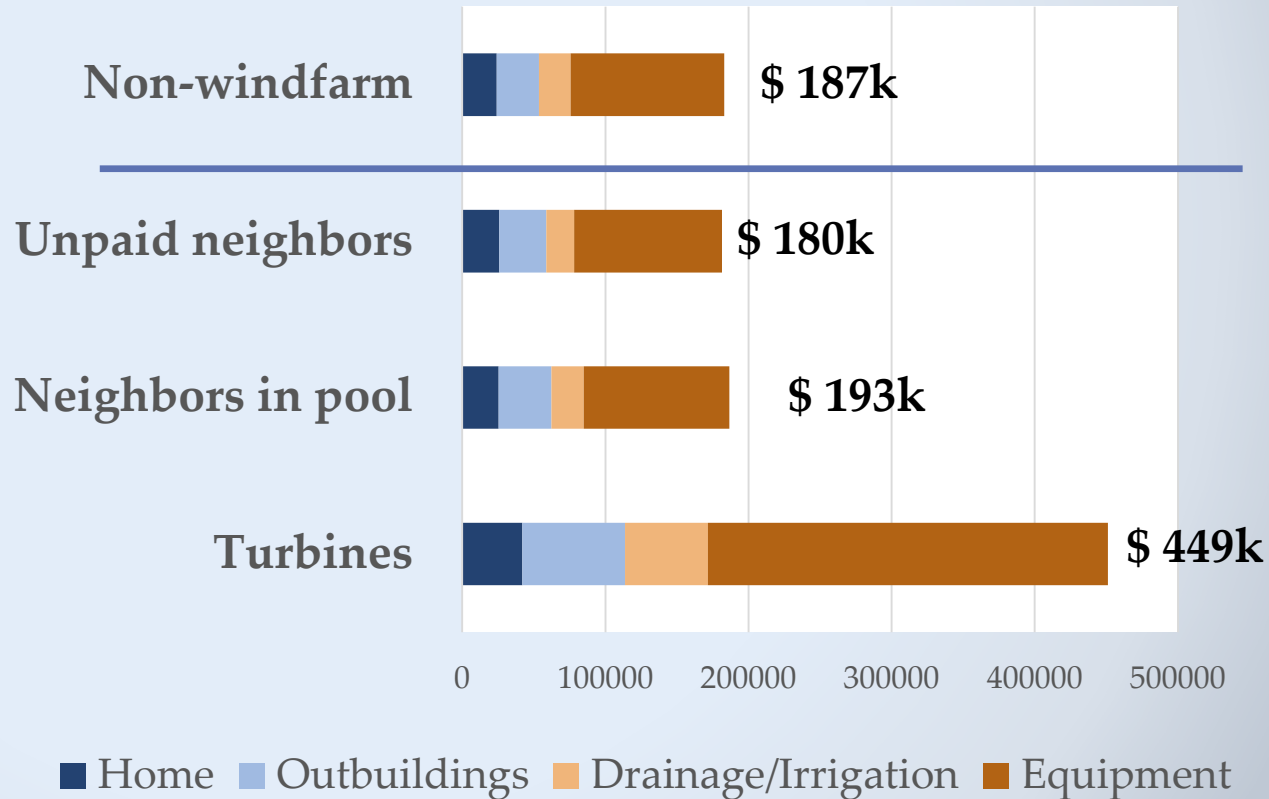
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Individual-level Impacts

Investments over 5 years: 2009-2013

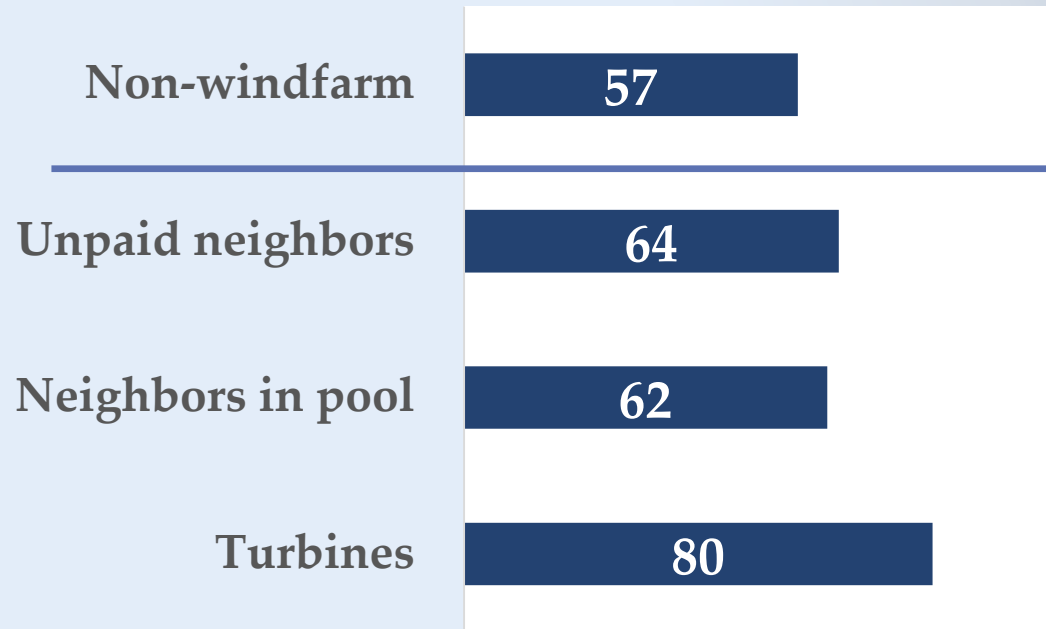
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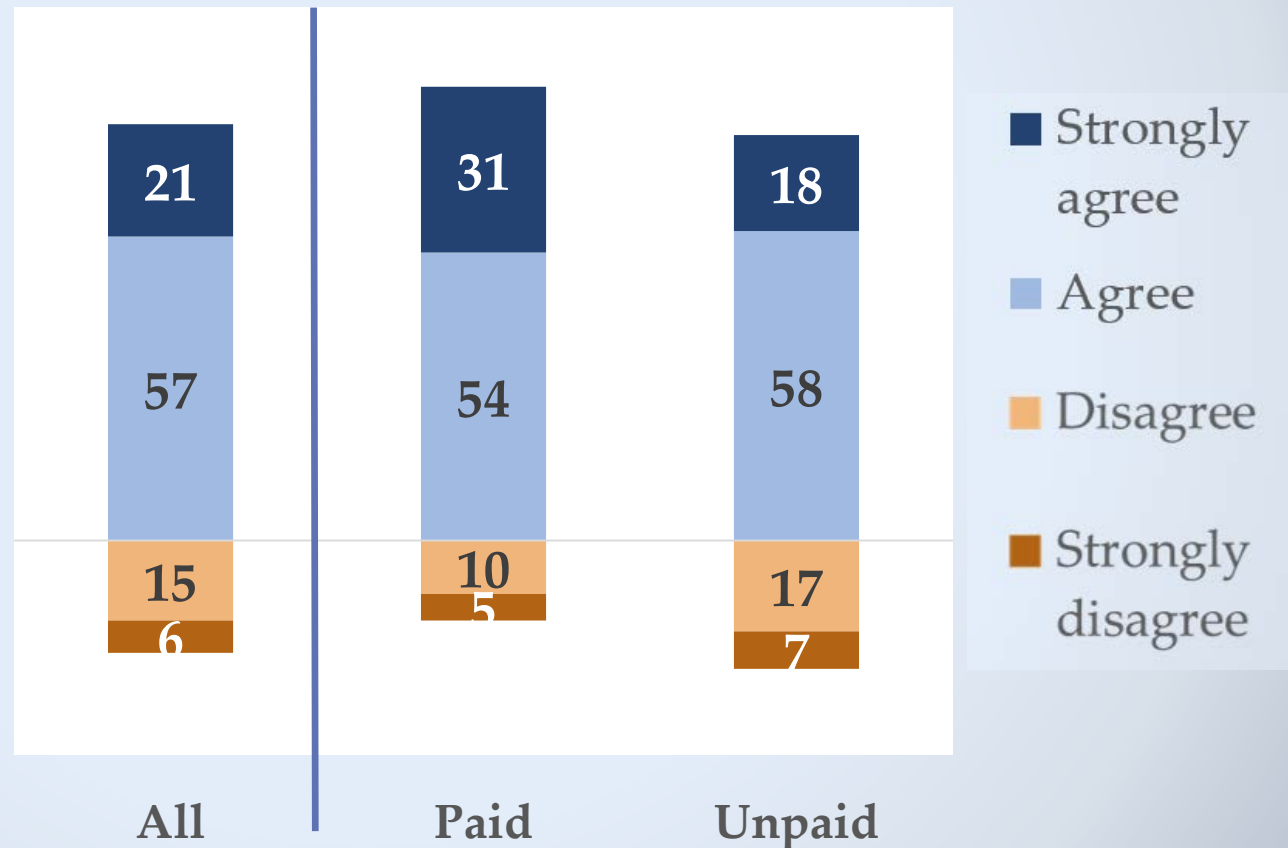
% that have farm succession plan



Community-level Impacts

- Job creation
- Roads
- Township services
- County services
- Schools
- Relationships with neighbors

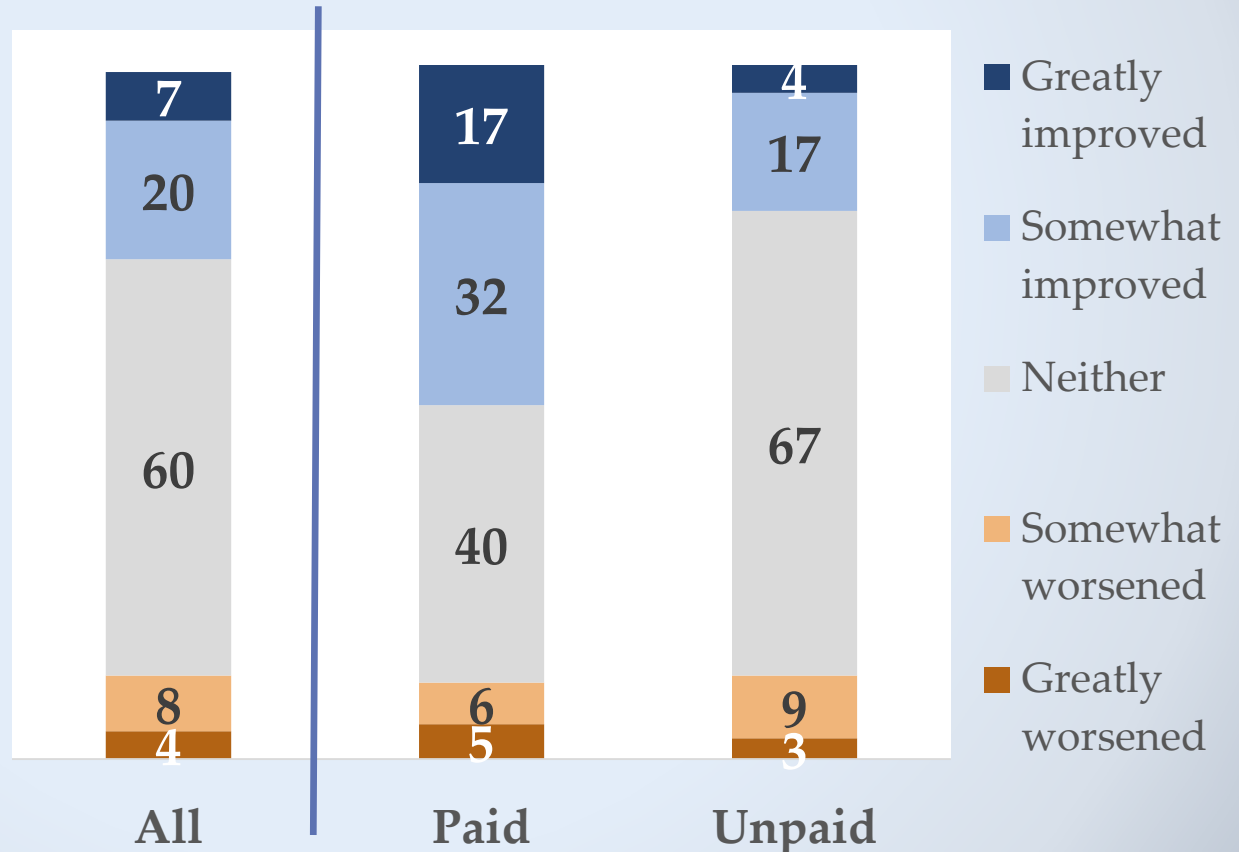
Turbines create jobs



Community-level Impacts

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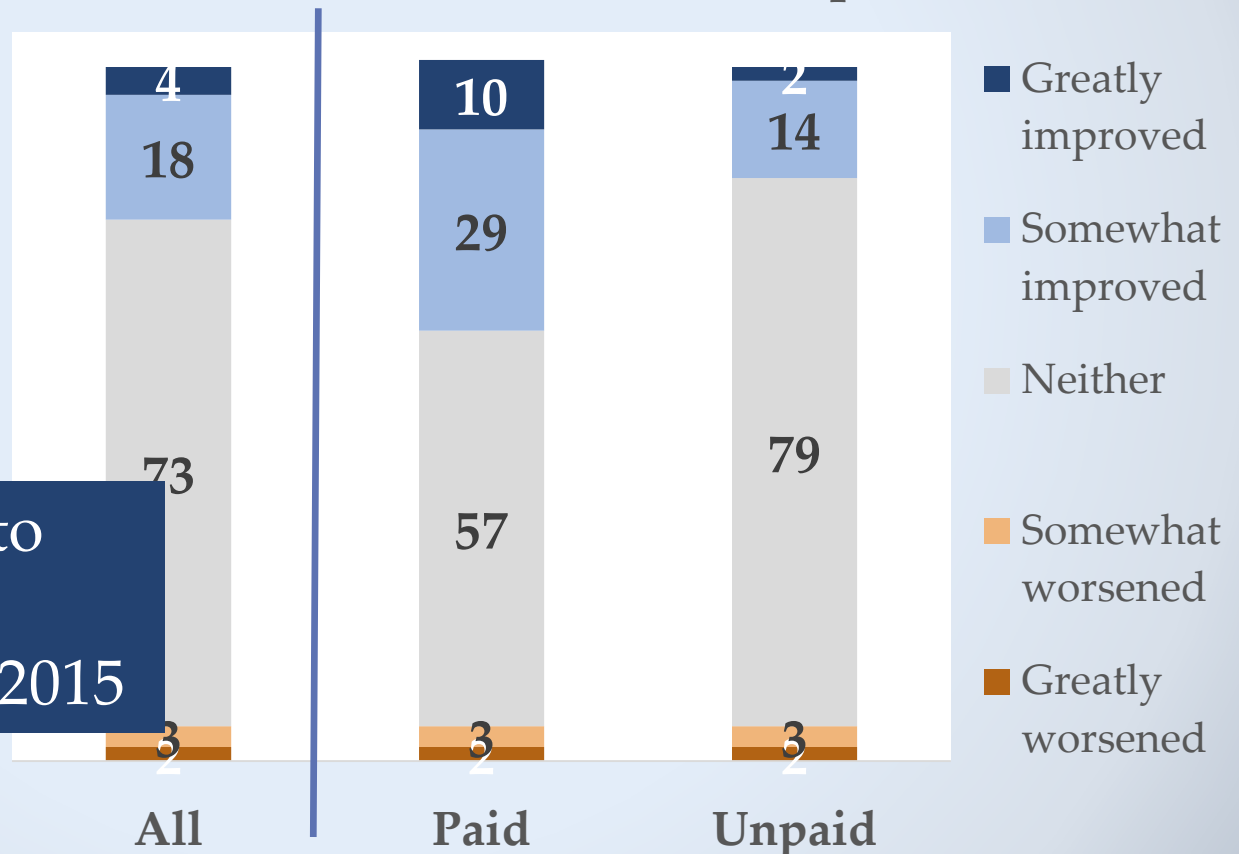
Turbines' effect on local roads



Community-level Impacts

Turbines' effect on township services

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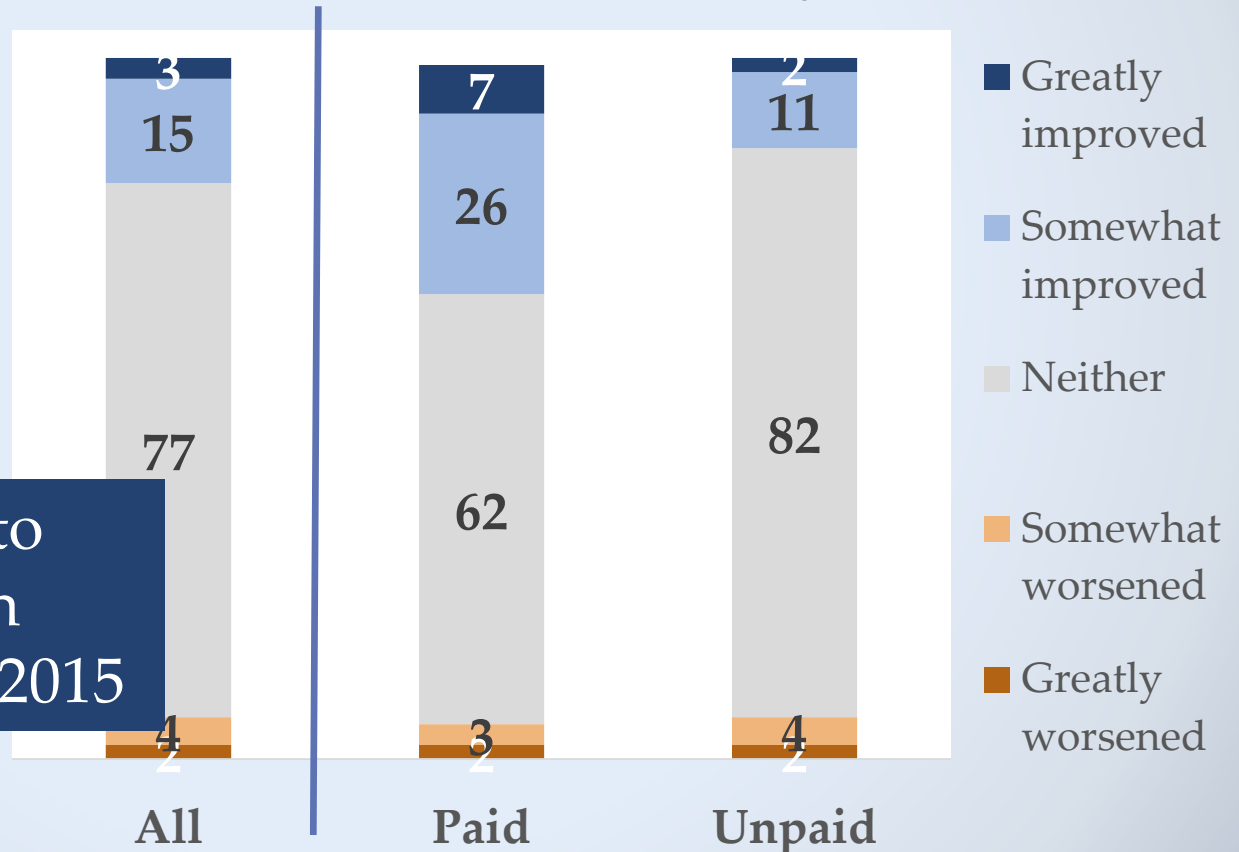
\$2.630 Million to townships in Huron County in 2015

Community-level Impacts

Turbines' effect on county services

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\$2.749 Million to county gov't in Huron County in 2015

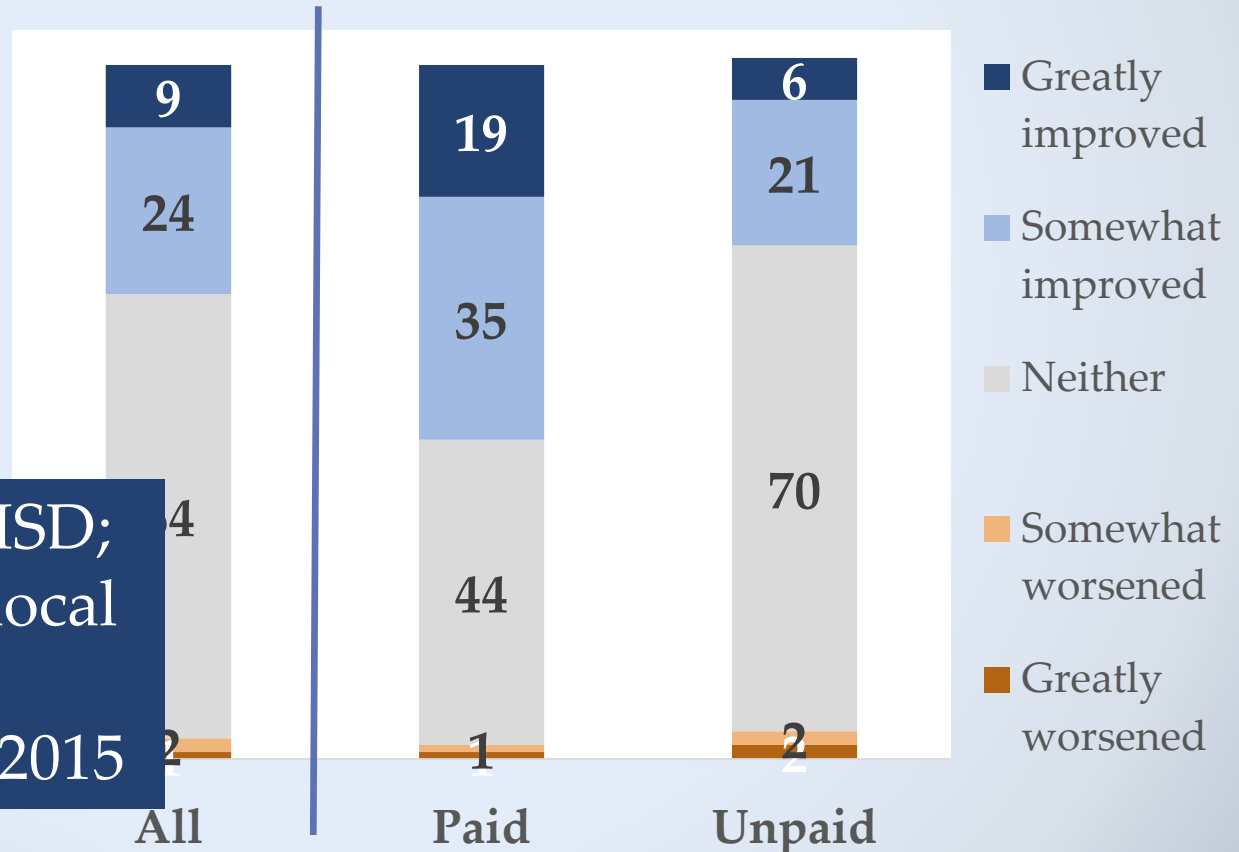


Community-level Impacts

- Job creation
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**\$2.083 Million to ISD;
\$2.074 Million to local
schools in
Huron County in 2015**

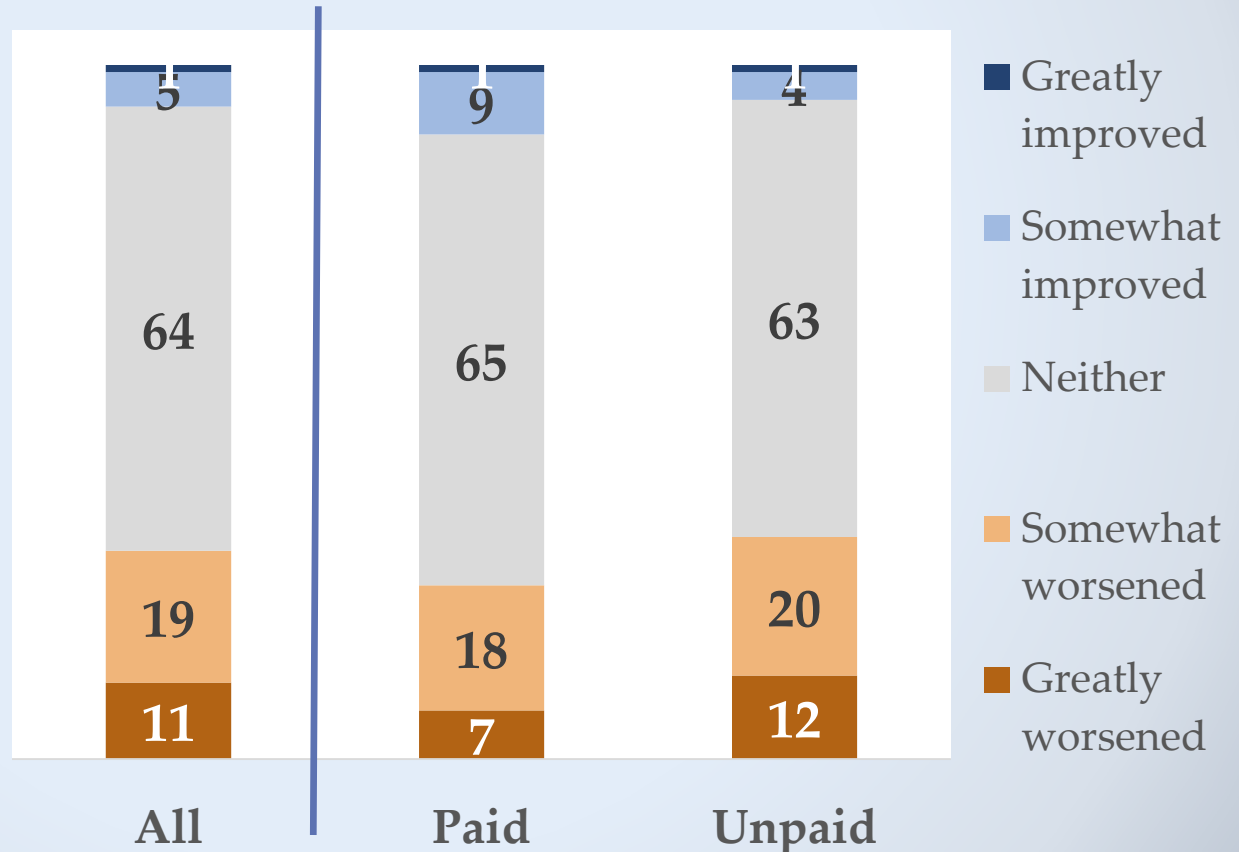
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Community-level Impacts

Turbines' effect on relationships with neighbors

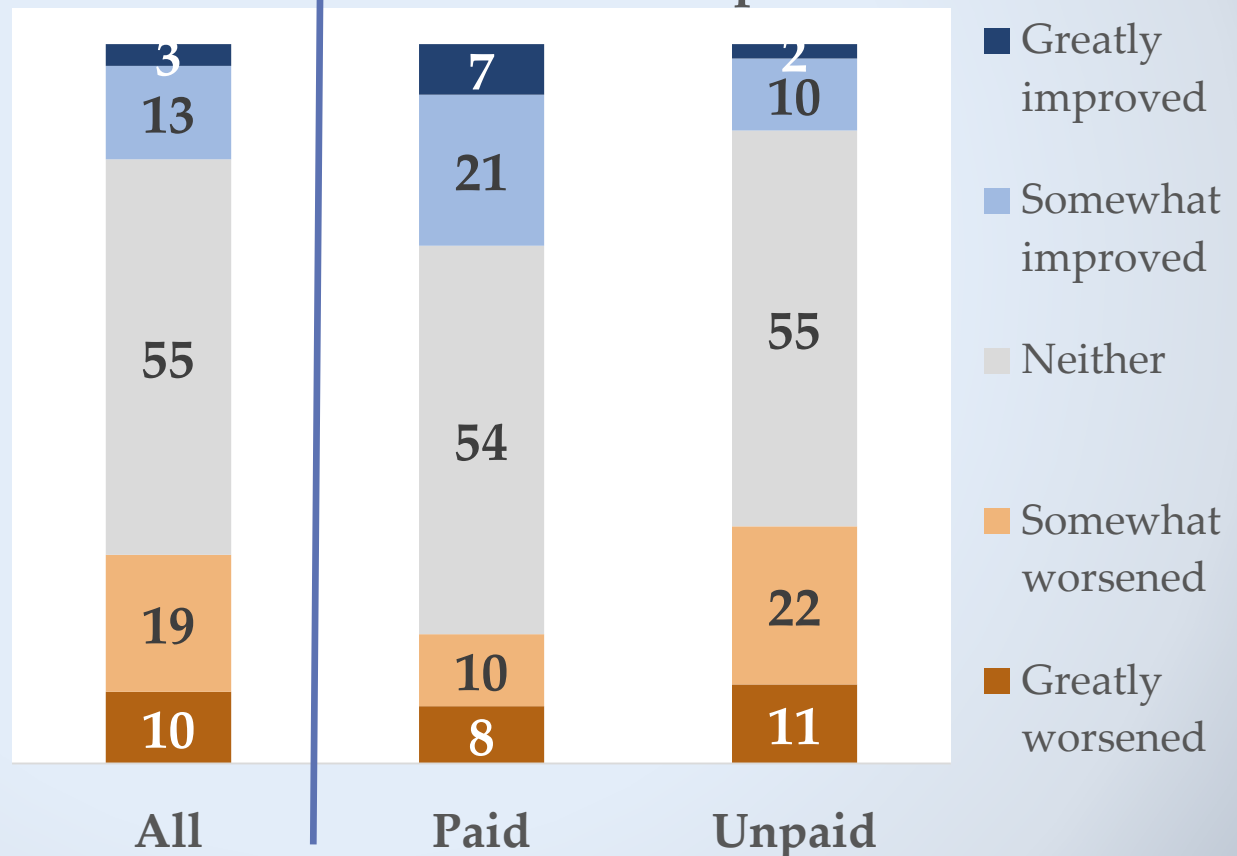
- Job creation
- Roads
- Township services
- County services
- Schools
- Relationships with neighbors



Would they welcome more wind development?

Turbines' effect on overall quality of life in township

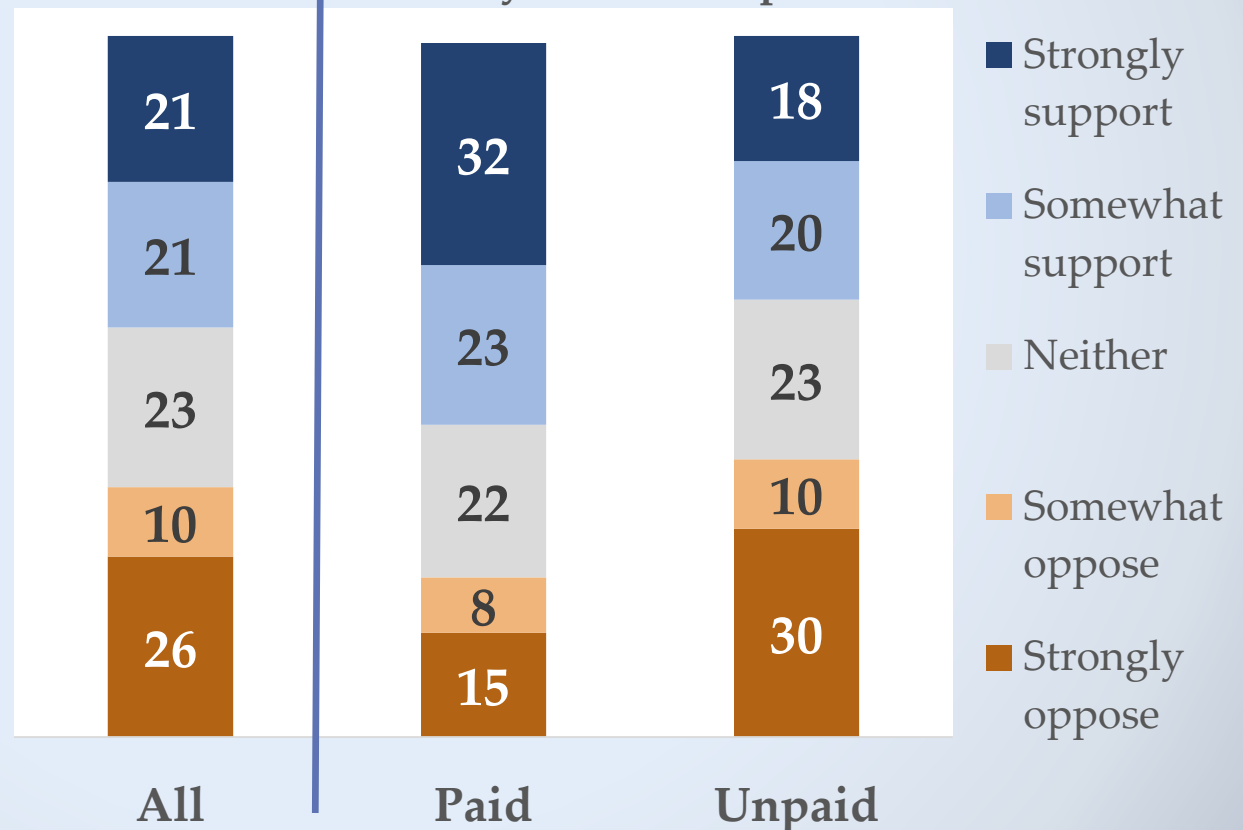
- Quality of life
- Willingness to accept new turbines



Would they welcome more wind development?

Willingness to host additional turbines in your township

- Quality of life
- Willingness to accept new turbines

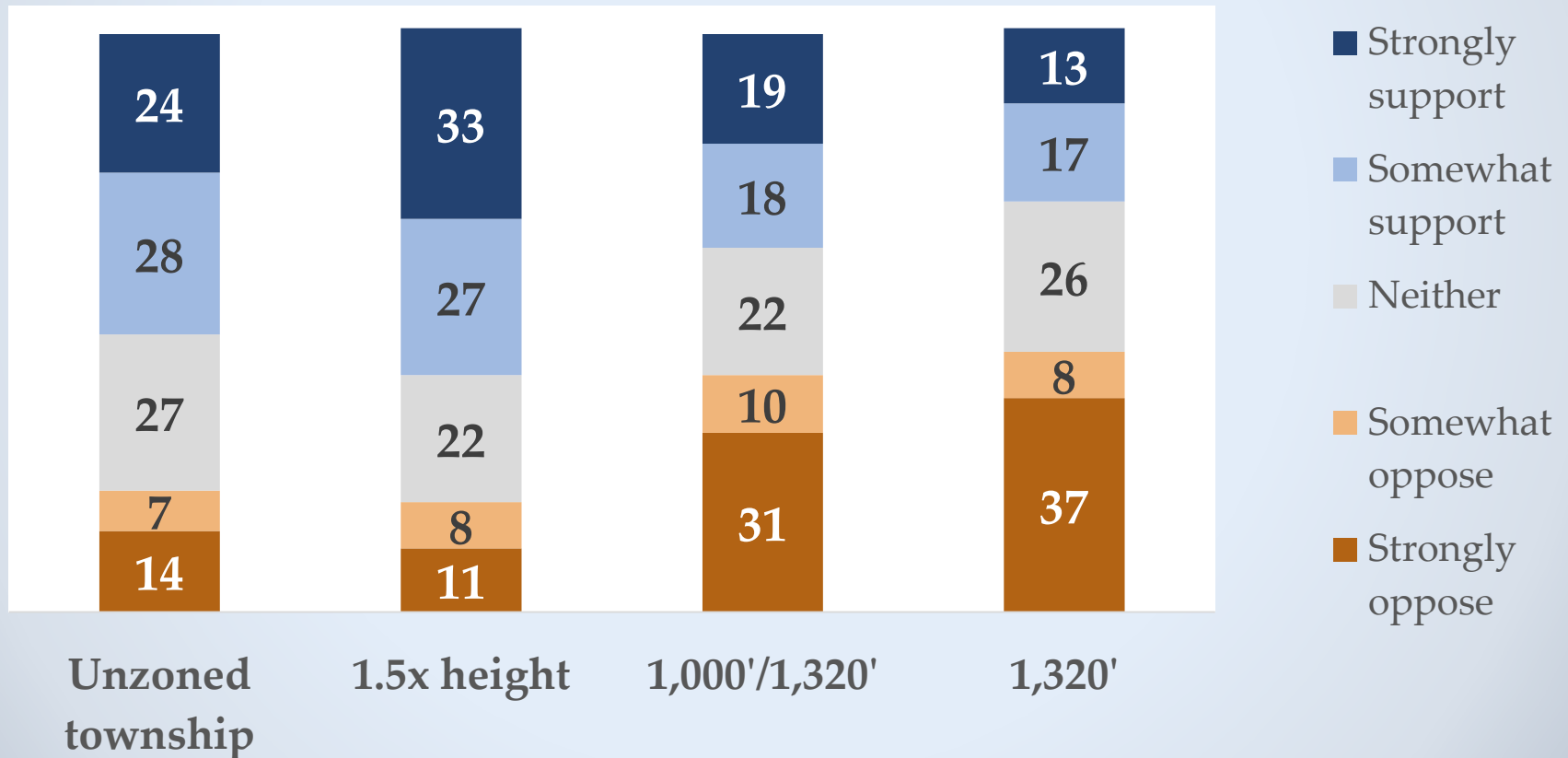


Example zoning ordinances

- MSU Extension
 - Sample Zoning for Wind Energy Systems (2017)
 - Michigan Land Use Guidelines for Siting Wind Energy Systems (2007)
- Dept. of Energy database
 - Look for similar types of communities
 - Includes places both with/without wind
 - <https://windexchange.energy.gov/policies-incentives>
- Shiawassee County Planning
 - Comparison charts on height, noise, setback
 - <https://www.shiawassee.net/Departments/Community-Development/Wind-Energy-Conversion-Systems>
- My website (www.closup.umich.edu/wind)
 - Just the communities which have existing windfarms in Michigan

The ideal zoning ordinance?

Support/oppose additional turbines in township,
by zoning setback distance

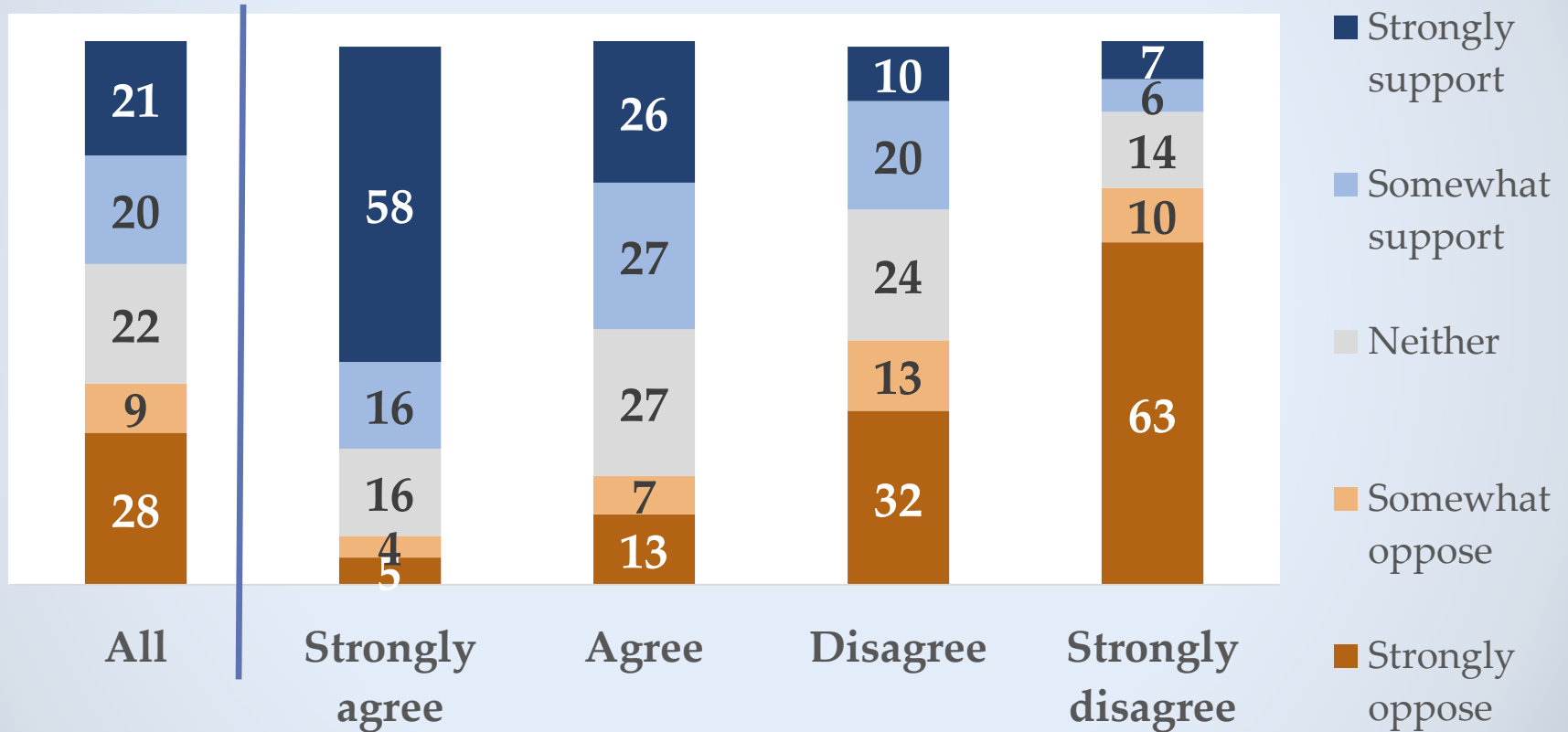


What my research suggests on zoning

- Participating vs. non-participating landowners
- Noise, flicker analysis
- Decommission plan/financial assurance
- Have an open & transparent process

The importance of process

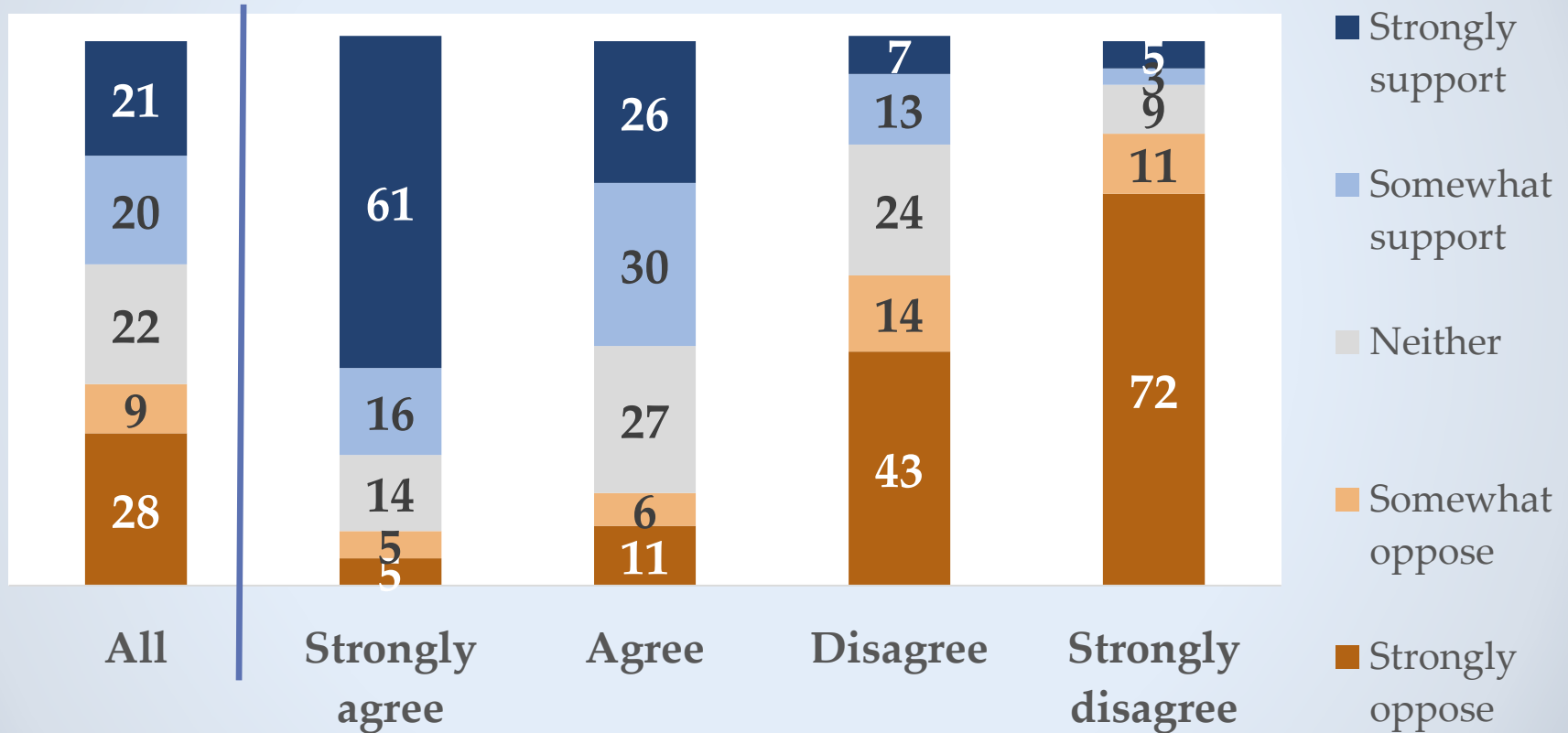
Support/oppose additional turbines in township,
by agree/disagree opportunity to participate in planning



“I had ample opportunity to provide input during the wind project planning stage.”

The importance of transparency

Support/oppose additional turbines in township,
by agree/disagree wind developer acted transparently



“The wind project developer acted openly and transparently throughout the planning process.”